

Observations of Comet b, 1883 (Pons—Brooks), with the East Equatorial.
Aperture 6·7 inches.

Greenwich Mean Solar Time.	Obs.	♂—*	Corr. for Par. in R.A.	♂—*	Corr. for Par. in N.P.D.	No. of Comp.	App. R.A.	App. N.P.D.
1883, Oct. d h m		m s	s	h m s	° ′ ″		h m s	° ′ ″
21 11 9	A.D.	—0 46·39	+0·36	+ 4 28·6	—2·5	2	16 46 12·20	35 19 20·8 e
11 12		—3 45·14	+0·36	+ 7 6·2	—2·6	1	16 46 17·42	35 20 27·0 f
11 38		+2 14·35	+0·35	— 3 42·7	—2·8	3	16 46 16·77	35 19 52·1 g
29 6 34	A.D.	+1 26·66	+0·33	+ 3 31·6	—1·2	3	16 58 51·16	36 50 18·0 h
6 49		—2 13·91	+0·34	— 6 26·3	—1·4	2		i
7 21		—2 35·65	+0·35	+13 43·5	—1·7	2	16 58 43·20	36 49 55·1 j

Assumed Mean Places of the Comparison Stars.

Star.	Star's Name.	R.A.	N.P.D.	Authority.
		h m s	° ′ ″	
e	Arg. Z + 54°—1839	16 46 59·23	35 15 7·8	Bonn Obs., vol. v.
f	Arg. Z + 54°—1846	16 50 3·18	35 13 36·8	"
g	Oeltz. Arg. (N) 16534	16 44 3·07	35 23 49·9	Oeltz. Arg. (N) 1842
h	Arg. Z + 53°—1910	16 57 25·10	36 47 1·5	Bonn Obs., vol. v.
i	Anonymous			
j	Oeltz. Arg. (N) 16790	17 1 19·44	36 36 27·1	Oeltz. Arg. (N) 1842

Oct. 21. Comet very faint and difficult to observe; has a stellar nucleus.

Stars e and f about the tenth magnitude; c about the eighth.

Oct. 29. Comet faint and difficult to observe.

The observations are corrected for parallax. The effect of refraction is insensible.

The initials A.D. and M. are those of Mr. Downing and Mr. Maunder.

Royal Observatory, Greenwich:
1883, Nov. 9,

Observations of the Variable Star R Carinæ from May 1880 to Sept. 1883. By John Tebbutt.

My attention was first drawn to this star in May 1880 by the remarks of Dr. Gould in the *Uranometria Argentina*, who was, I believe, the first to point out its variability. It is synonymous with the star numbered 3932 in Lacaille's Catalogue of 9766 stars. Perceiving that it was one of the most remarkable variables beneath the horizon of northern Observatories I at once resolved to follow its variations systematically. I have therefore recorded its magnitude at every suitable opportunity. During the visibility of the star to the unassisted eye my comparisons were made with a selection of neighbouring stars from the *Uranometria*; when the variable became telescopic they were

made with certain stars comprised with it in the same low-power field of my telescopes of $3\frac{1}{4}$ and $4\frac{1}{2}$ -in. aperture. In order that the precise value of my estimates near the minimum may be understood by any future astronomer who may continue the observations of this star, I have appended a list of the small comparison stars, giving their assumed magnitudes and their approximate coordinates in R.A. and N.P.D., with reference to the variable itself. I may state that the smallest stars in the list—namely, those of the 9.2 magnitude—can just be seen with the aperture of the $4\frac{1}{2}$ -in. telescope reduced to one inch. They are also found to be about equal to the average stars of the ninth magnitude in *Oeltzen-Argelander's Zonen Beobachtungen*, 15° to 31° Sud. Dec. für 1850. The brightest comparison in the field is Lacaille 3993, whose magnitude 6.9 is adopted from the *Uranometria*. The variable is red through all its stages, and it will be seen that although the star does not vary much from the ninth magnitude at the minimum, the value of the maximum magnitude varies considerably. Of the four maxima observed here, that of December 1880 was much the brightest. The variations about the maximum appear to be more rapid than those about the minimum. The following table exhibits the concluded magnitudes of the variable during the period May 1880–Sept. 1883; and as they are the results of very careful comparison, I trust they will prove an acceptable contribution towards data for an investigation of the period and other elements of this remarkable star. I shall continue the observations, more especially about the epochs of maximum and minimum. Comparing my own estimates with those recorded for 1871–1874 in the *Uranometria*, I conclude that the probable period from maximum to maximum is about 313 days. This conclusion, it will be seen, agrees with that already published by me in the *Journal of the Royal Society of New South Wales* for 1881.

Windsor, N.S. Wales:
1883, Sept. 5.

Concluded Magnitudes of R Carinae.

Date.	Mag.	Date.	Mag.	Date.	
1880, May 11	8.2	1880, Aug. 9	9.0	1880, Nov. 14	6.0
12	8.3	12	9.0	15	6.0
18	8.3	22	9.0	17	5.9
28	8.5	Sept. 1	8.8	20	5.7
June 9	8.9	18	7.5	24	5.4
28	9.0	30	7.0	30	5.3
July 5	9.2	Oct. 10	6.9	Dec. 1	5.2
12	9.1	26	6.7	4	5.1
20	9.0	27	6.7	10	4.6
26	9.1	30	6.7	12	4.4
Aug. 4	9.1	Nov. 1	6.6	14	4.4

Date.	Mag.	Date.	Mag.	Date	Mag.
1880, Dec. 16	4.3	1881, Aug. 11	8.2	1882, June 14	8.6
18	4.4	19	8.2	24	8.3
19	4.4	30	8.1	July 29	7.2
22	4.5	Sept. 16	7.4	Aug. 10	6.0
25	4.5	Oct. 8	5.7	21	5.0
26	4.7	11	5.5	30	4.9
30	4.9	21	5.4	Sept. 2	4.9
1881, Jan. 1	4.9	27	5.4	6	4.9
5	4.9	Nov. 7	5.5	13	5.1
6	4.9	13	5.9	23	5.4
8	5.0	17	6.3	Oct. 6	5.7
15	5.2	18	6.2	10	6.5
19	5.4	22	6.3	Nov. 21	7.6
26	6.1	Dec. 3	6.9	Dec. 12	9.8
29	6.0	10	7.0	18	8.5
Feb. 10	6.4	19	7.6	29	8.8
15	6.6	1882, Jan. 2	8.3	1883, Jan. 12	9.1
26	7.0	9	8.5	16	9.1
Mar. 1	7.0	18	8.6	25	9.2
7	7.5	23	8.7	Feb. 7	9.3
14	8.0	31	8.9	13	9.2
18	8.2	Feb. 10	9.0	26	9.2
24	8.4	15	9.0	Mar. 4	9.2
30	8.6	20	9.1	10	9.1
Apr. 7	8.7	24	9.1	28	9.0
13	8.8	Mar. 6	9.2	Apr. 1	9.0
19	8.8	10	9.2	27	8.4
28	9.0	17	9.2	June 14	6.0
May 4	9.1	22	9.2	26	5.5
10	9.1	27	9.3	July 3	5.0
16	9.1	Apr. 4	9.2	7	5.1
21	9.1	5	9.2	8	5.0
June 1	9.2	9	9.2	12	5.0
8	9.3	15	9.3	17	5.1
20	9.1	20	9.3	20	5.2
27	9.0	24	9.2	24	5.2
July 6	8.9	May 5	9.2	27	5.2
14	8.9	11	9.1	29	5.2
20	8.8	20	9.1	Aug. 1	5.5
29	8.7	June 4	8.8	6	5.7
				Sept. 3	6.9

Coordinates in R.A. and N.P.D. of the Comparison Stars with reference to R. Carinæ, together with the Adopted Magnitudes of the Comparison Stars.

Comparison Star.	Adopted Magnitude.	R.A.	N.P.D.
No. 1 (Red Star)	... 8.7	^m 1 ^s 31.4 E.	26' 28" S.
2	... 9.2	1 32.1	8 5 S.
3	... 8.6	1 52.0	20 24 N.
4	... 9.2	2 56.1	0 45 S.
5	... 8.5	3 8.4	20 13 N.
6	... 9.2	3 52.6	10 8 S.
7	... 9.2	4 30.0	9 0 N.
8	... 8.0	6 4.9	14 41 N.
	... 9.1	6 46.2	3 52 S.
10	... 8.0	6 46.8	14 51 N.
11	... 8.5	7 8.7	27 17 S.
12 (Lacaille 3993)	6.9	7 23.5	8 31 S.
13	... 8.9	8 2.2	12 9 S.
14	... 8.8	9 34.7	6 54 N.
15	... 8.6	10 8.0	3 33 N.

Note.—The position of star No. 7 is derived from alignments with the other stars.

Errata in my communications in vol. xliii. of the Monthly Notices of the Royal Astronomical Society.

- Page 279. For 0^s.7 read 0^s.1.
 „ 386. R.A. parallax factor for Oct. 26; for -8.7083 read -8.7089.
 „ 387. Comparison Star for Nov. 14; for 31 read 35.
 „ 389. Comet's App. N.P.D. for Dec. 29; for 119° 51' 19" read 119° 51' 9".
 „ 393. Opposite to Star No. 54; for 1880, 3240 read 1860, 3240.

Measures of Southern Double Stars. By E. B. Powell.

In the *Monthly Notices* for June 1870, in which appeared my last published elements of the orbit of a *Centauri*, I mentioned my intention of communicating at a later period the details of the double star observations I was then engaged in taking. Circumstances prevented me from carrying out the plan I had formed of securing a considerable number of measures of different southern binaries; and, on my return to Europe in 1875, I thought it scarcely worth while to trouble the Society with the limited number of observations I had taken. As, however, Dr. Elkin applied to me some time ago for my unpublished

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